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FRANKLIN LECTURES,

NOVEMBER 14, 1831.

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ADDRESS.



NOTWITHSTANDING the numerous institutions, for promoting useful knowledge, in our community, it was still found, that many were excluded from the benefit of them. The number of persons, that can be accommodated in any one hall, is of course limited; and it has been thought desirable to make the attempt to provide an additional course of lectures, on the various branches of useful knowledge, for the benefit of those, who have not had it in their power, for this or any other reason, to obtain access to the other institutions, which have set so praiseworthy an example, in this work of public utility. We are assembled, this evening, to make the beginning of this new course of popular instruction.

The plan of this course of lectures was suggested at so late a period this year, that it may not perhaps be possible, the present season, to carry it fully into effect, in such a manner as is wished and designed, in reference to the choice and variety of subjects. It is intended, eventually, that it should extend to the various branches of natural science. It will impart useful information, relative to the Earth, the Air, and the Ocean; the wonders of the heavens; and the mineral treasures beneath the surface of the globe. It may extend to the different branches of natural history, and acquaint you with the boundless variety of the animated creation. The various properties of natural bodies will form a prominent subject of consideration,

as the basis of so many of the arts and trades, and the sources from which so many of the wants of man are supplied. In like manner, those natural powers and properties of matter, the agency of fire, water, steam, and weight, which, in their various combinations, produce the wonders of improved machinery, by which industry is facilitated, and the most important fabrics are furnished cheaply and abundantly, will not be overlooked. It may be supposed, that a due share of attention will be paid to the geographical survey of the globe, to the history of our own race, the fortunes of the several nations, into which mankind have been divided, and the lives of great and good men, who, long after they have departed from life, survive in the gratitude and admiration of their fellow-men. A general and intelligible view of the constitution and laws of the country, in which we have the happiness to live, tending, as it will, to enlighten us in the discharge of our duties, as citizens, will no doubt be presented to you, by some, who will take a part in these lectures. Nor will they, I venture to hope, be brought to a close, without having occasionally directed your thoughts to those views of our common nature, which belong to us as rational and immortal beings, and to those duties and relations, which appertain to us as accountable agents.

The general plan of these lectures extends to these and all other branches of sound and useful knowledge; to be treated in such order, as circumstances may suggest; and with such variety and selection of subjects and fullness of detail, as the convenience of the lecturers and the advantage of the audience may dictate. They have been called the *Franklin Lectures*, in honor of our distinguished townsman, the immortal Franklin, the son of a tallow-chandler, and the apprentice to a printer in this town;—a man, who passed all his early years, and a very considerable portion of his life, in manual industry; and who was chiefly distinguished by his zealous and successful efforts for the promotion of useful knowledge. His name has given lustre to the highest walks of science, and adorns the proudest page of the history of our country, and the world. But we have thought it was still more a name of hope and promise, for an

institution like this, which aims to promote useful knowledge, (the great study of his life,) among that class of our fellow-citizens, from which it was ever his pride himself to have sprung.

It would seem, at the commencement of a course of public instruction of this kind, a pertinent inquiry, *Why* should we endeavor to cultivate and inform our minds, by the pursuit of knowledge?

This question, to which the good sense of every individual furnishes, without meditation, some general reply, demands a full and careful answer. I shall endeavor, in this address, to state some of the reasons, which go to furnish such an answer.

All men should seek to cultivate and inform their minds, by the pursuit of useful knowledge, as the great means of happiness and usefulness.

All other things being equal, the pursuit and attainment of knowledge are, at the time, the surest source of happiness. I do not mean, that knowledge will make up for the want of the necessaries and comforts of life : it will not relieve pain, heal sickness, nor bring back lost friends. But if knowledge will not do this, ignorance will do it still less. And it may even be affirmed, and all who have made the experiment themselves will testify to the truth of the remark, that nothing tends more to soothe the wounded feelings, to steal away the mind from its troubles, and to fill up the weariness of a sick chamber and a sick bed, than, for instance, some intelligible, entertaining, good book, read or listened to.

But knowledge is still more important, as the means of being useful ; and the best part of the happiness, which it procures us, is of that purer and higher kind, which flows from the consciousness that, in some way or other, by good example or positive service, we have done good to our fellow-men. One of the greatest modern philosophers said, that *knowledge is power* ; but it is power because it is usefulness. It gives men influence over their fellow-men, because it enables its possessors to instruct, to counsel, to direct, to please, and to serve their fellow-men. Nothing of this can be done, without the cultivation and improvement of the mind.

It is the mind, which enables us to be useful, even with our bodily powers. What is strength, without knowledge to apply it? What are the curiously organized hands, without skill, to direct their motion? The idiot has all the bodily organs and senses of the most intelligent and useful citizen.

It is through mind, that man has obtained the mastery of nature and all its elements, and subjected the inferior races of animals to himself. Take an uninformed savage, a brutalized Hottentot, in short any human being, in whom the divine spark of reason has never been kindled to a flame; and place him on the sea-shore, in a furious storm, when the waves are rolling in, as if the fountains of the deep were broken up. Did you not know, from actual experience, that man by the cultivation of his mind, and the application of his useful arts, had actually constructed vessels, in which he floats securely on the top of these angry waves, you would not think it possible that a being, like that we have mentioned, could for one moment resist their fury. It is actually related of some of the North American Indians, a race of men, who are trained, from their infancy, to the total suppression of their emotions of every kind, and who endure the most excruciating torments, at the stake, without signs of suffering, that when they witnessed, for the first time, on the western waters of the United States, the spectacle of a steamboat under way, moving along without sails or oars, and spouting fire and smoke, they could not refrain from exclamations of wonder. Hold out a handful of wheat, or Indian corn, to a person wholly uninformed of their nature, and ignorant of the mode of cultivating them, and tell him, that by scattering these dry kernels abroad, and burying them in the cold damp earth, you can cause a harvest to spring up, sufficient for a winter's supply of food, and he will think you are mocking him, by vain and extravagant tales. But it is not the less true, that in these, and in every other instance, it is the mind of man, possessed of the necessary knowledge and skill, that brings into useful operation, for the supply of human want, and the support and comfort of human life, the properties and treasures of the natural world, the aid of inferior animals, and even our own physical powers.

When, therefore, we improve our minds, by the acquisition of useful knowledge, we appropriate to ourselves, and extend to others, to whom we may impart our knowledge, a share of this natural control over all other things, which Providence has granted to his rational children.

It cannot, it is true, be expected to fall to the lot of many individuals, by extending their knowledge of the properties and laws of the natural world, to strike out new discoveries and inventions, of the highest importance. It is as much as most men can hope, and promise themselves, to be enabled to share the comfort and benefit of the unnumbered improvements, which, from the beginning of time, have been made by others; and which, taken together, make up the civilization of man. Still, there are examples, in almost every age, of men, who, by the happy effects of their individual pursuit of useful knowledge, have conferred great benefits upon all mankind. I presume, that in consequence of the success of Arkwright, in inventing the machinery for spinning cotton, of Cartwright, in inventing the power loom, and our own countryman Whitney, in inventing a machine for preparing cotton, the expense of necessary clothing is diminished two thirds for every man in Europe and America. In other words, the useful knowledge acquired and imparted to the world, by these three men, has enabled every man, woman, and child in the civilized world, as far as clothing is concerned, to live at one third of the former cost. We are struck with astonishment when we behold these curious machines; when we look, for instance, at a watch, and see a few brass wheels, put in motion by a little bit of elastic steel, counting out the hours and minutes, by night and by day, and even enabling the navigator, to tell how many miles he has sailed, upon the waste ocean, where there are no marks or monuments, by which he can measure his progress. But how much more wonderful is the mind of man, which, in the silence of the closet, turned in upon itself, and deeply meditating upon the properties and laws of matter, has contrived this wonderful machine!

The invention of the power loom, by Mr. Cartwright, beau-

tifully illustrates the strength and reach of the intellectual principle, resolutely applied to a given object. In consequence of Arkwright's machinery for spinning, it was soon found, that there would be a difficulty in weaving all the yarn, that could be spun. It was remarked in a company, where Mr. Cartwright was present, in 1784, that, in order to remedy this evil, Mr. Arkwright must exercise his ingenuity, and invent a weaving mill, in order to work up the yarn, which should be spun in his spinning mills. The subject was discussed; and it was pronounced by the gentlemen present, who were manufacturers from Manchester, in England, to be impossible. Mr. Cartwright, thought otherwise: he said there had been lately exhibited in London a machine, for playing chess; and he felt quite sure, that it could not be more difficult to construct a machine to weave cloth, than a machine, which could go through all the movements of such a complicated game. Mr. Cartwright was a clergyman, forty years old, and had never given his attention to the subject of machinery. This subject, however, was so strongly on his mind, that some time afterwards he resolved to make the attempt, to invent a weaving machine. He had not, at that time, it appears, ever seen even a common loom. But reasoning upon the nature of the processes, necessary to be gone through to cross the threads, in such a way as to make a piece of cloth, he hit upon the plan of a loom, and, with the assistance of a carpenter and blacksmith, he made one. It was a very rude machine. "The warp, says Mr. Cartwright, was laid perpendicularly, the reed fell with a force of at least half a hundred weight, and the springs which threw the shuttle, were strong enough to throw a congreve rocket." Besides this, it required the strength of two powerful men to work it, and that at a slow rate, and for a short time. But the principle was there. Mr. Cartwright now went and examined the looms of common form, and soon succeeded in constructing one very nearly resembling the power-looms which are now in use. In the account of this interesting invention, which I am quoting,*

* Library of Entertaining Knowledge, Vol. viii. p. 347. Second American edition.

it is said, that "Dr. Cartwright's children still remember often seeing their father, about this time, walking to and fro, in deep meditation, and occasionally throwing his arms from side to side, on which they used to be told, that he was thinking of weaving and throwing the shuttle." Some time after he had brought his first loom to perfection, a manufacturer, who had called upon him to see it at work, after expressing his admiration at the ingenuity displayed in it, remarked, that wonderful as Mr. Cartwright's mechanical skill was, there was one thing that would effectually baffle him, and that was the weaving of patterns in checks, or, in other words, the combining in the same web of a pattern or fancy figure, with the crossing colors that make the check. Mr. Cartwright made no reply to this observation, at the time ; but, some weeks after, on receiving a second visit, from the same person, he had the pleasure of showing him a piece of muslin, of the description mentioned, beautifully woven by machinery. The man was so much astonished, that he declared, that something more than human agency must have been concerned in the fabric.

The wonderful results of the sagacity and perseverance of Fulton, in carrying into effect the conceptions of his mind, on the subject of steam navigation, still more nobly illustrate the creative power of the human intellect ; but it is a matter too familiar to need comment.

But it must not be supposed, from the instances I have chosen, to show the amount of good which may be done by the exercise of the mental powers, that it is confined to the material comforts of life ; to steam-boats, looms, or machinery for spinning. Far from it. The true and most peculiar province of its efficacy is the moral condition. Think of the inestimable good conferred on all succeeding generations, by the early settlers of America, who first established the system of public schools, where instruction should be furnished *gratis* to all the children in the community. No such thing was before known in the world. There were schools and colleges, supported by funds, which had been bequeathed by charitable individuals ; and, in conse-

quence, most of the common schools of this kind in Europe, were regarded as a kind of pauper establishments, to which it was not respectable to have recourse. So deep-rooted is this idea, that, when I have been applied to for information as to our public schools, from those parts of the United States, where no such system exists, I have frequently found it hard to obtain credit, when I have declared, that there was nothing disreputable, in the public opinion here, in sending children to schools, supported at the public charge. The idea of such schools, therefore, when it first crossed the minds of our forefathers, was entirely original; but how much of the prosperity and happiness of their children, and posterity, has flowed from this living spring of public intelligence! So, too, the plan of Sunday schools, which have proved a blessing of inestimable value, in Europe and America, and particularly to thousands who are deprived of the advantages of other institutions. It is probable that instruction is now given, in the Sunday schools, to more than a million and a half of pupils, by more than one hundred and fifty thousand teachers. This plan was the happy suggestion of an humble individual,—a printer,—who contemplated, at first, nothing but the education of the destitute and friendless children in his immediate neighborhood. After laboring in this noble field of usefulness for twenty years, and among the class of population most exposed to the temptations to crime, he had the satisfaction of being able to say, that out of three thousand scholars, he had heard of but one, who had been sent to jail, as a criminal.* Who would not be ashamed to compare the pure and happy renown of the man,

* See a very interesting address, at the celebration of the Sunday school jubilee, or the fiftieth year from the institution of Sunday schools, by Robert Raikes: delivered at Charleston, S. C. Sept. 14, 1831, by the Hon. Thomas Smith Grinné. I find, however, the following statement in a public print, of the accuracy of which, I have no means of judging.

“The credit of originating these institutions has usually been given to Mr. Raikes, a newspaper proprietor of Gloucester, who died some years ago. It now appears, however, from statements and documents of unquestionable authenticity, that the plan of the first school of this description, which was established in Gloucester, in 1780, originated with the Rev. Thomas Stock, head master of the cathedral school in that city. Mr. Stock, who was in

who had extended, by the suggestion of this simple but before untried plan of education, the blessings of instruction to a million and a half of his fellow-creatures, with the false and unmerited glory, which has been awarded to conquerors, whose wars have hurried their millions of victims to cruel and untimely death!

This topic might be illustrated, perhaps, still more powerfully, by depicting the evils which flow from ignorance. These are deplorable enough in the case of the individual; although if he live surrounded by an intelligent community, the disastrous consequences are limited. But the general ignorance of large numbers and entire classes of men, acting under the unchastened stimulus of the passions, and excited by the various causes of discontent, which occur in the progress of human affairs, is often productive of scenes which make humanity shudder. I know not, that I could produce a more pertinent illustration of this truth, than may be found in the following extract from a foreign journal. It relates to the outrages, committed by the peasantry, in a part of Hungary, in consequence of the ravages of the cholera in that region.

“The suspicion that the cholera was caused by poisoning the wells, was universal among the peasantry of the counties of Zips and Zemplin, and every one was fully convinced of its truth. The first occasion arose in Klucknow, where, it is said, some peasants died in consequence of taking the preservatives; whether by an immoderate use of medicine, or whether they thought they were to take chlorate of lime internally, is not known. This story, with a sudden and violent

narrow circumstances, communicated the details of his plan to Mr. Raikes, when the latter assisted him with his purse; and, having taken a very active and zealous part, in promoting the establishment of Sunday schools, he ultimately obtained all the merit of being their founder. Mr. Raikes, who is, undoubtedly, entitled to much credit, for his benevolent exertions in the cause of education, lived to see 250,000 children enrolled in these schools. The number now enjoying the benefit of instruction on the Sabbath in England, is 1,250,000. At Birmingham, the system has been carried to a much greater extent, than in any other town in England, nearly 13,000 Sunday school pupils having been mustered there on the occasion of the late jubilee.”

breaking out of cholera at Klucknow, led the peasants to a notion of the poisoning of the wells, which spread like lightening. In the sequel, upon the attack of the estate of Count Czaki, a servant of the chief bailiff was on the point of being murdered, when, to save his life, he offered to disclose something important. He said that he received from his master two pounds of poisonous powder, with orders to throw it into the wells, and, with an axe over his head, took oath publicly in the church to the truth of his statement. These circumstances, and the fact that the peasants, when they forcibly entered the houses of the land-owners, every where found chlorate of lime, which they took for the poisonous powder, confirmed their suspicions, and drove the people to madness. In this state of excitement they committed the most appalling excesses. Thus, for instance, when a detachment of thirty soldiers, headed by an ensign, attempted to restore order in Klucknow, the peasants, who were ten times their number, fell upon them; the soldiers were released, but the ensign was bound, tortured with scissors and knives, then beheaded, and his head fixed on a pike as a trophy. A civil officer, in company with the military, was drowned, his carriage broken, and chlorate of lime being found in the carriage, one of the inmates was compelled to eat it till he vomited blood, which again confirmed the notion of poison. On the attack of the house of the Lord at Klucknow, the Countess saved her life by piteous entreaties; but the chief bailiff, in whose house chlorate of lime was unhappily found, was killed, together with his son, a little daughter, a clerk, a maid, and two students, who boarded with him. So the bands went from village to village; wherever a nobleman or a physician was found, death was his lot; and in a short time it was known that the High Constable of the county of Zemplin, several Counts, Nobles, and Parish Priests, had been murdered. A clergyman was hanged, because he refused to take an oath that he had thrown poison into the well; the eyes of a Countess were put out, and innocent children cut to pieces. Count Czaki, having first ascertained that his family was safe, fled from his estate at the risk of his life, but was stopped at Kirch-

trauf, pelted with stones, and wounded all over, torn from his horse, and only saved by a worthy merchant, who fell on him, crying, "Now I have got the rascal." He drew the Count into a neighboring convent, where his wounds were dressed, and a refuge afforded him. His secretary was struck from his horse with an axe, but saved in a similar manner, and in the evening conveyed with his master to Leutschau. But enough of these horrible scenes. Those here mentioned—and they are but a few from the counties of Zips and Zemplin—will suffice to give an idea of the mad rage of a people, hitherto kept in a state of ignorance and brutality, as soon as it breaks its fetters for a moment."

It is by no means my purpose, on this occasion, to attempt even a sketch of what the judicious exercise of the intelligent principle has enabled men to do, for the improvement of their fellow-men. Enough, I venture to hope, has been said, to put all, who favor me with their attention, upon the reflection that it is only by its improvement, that it is possible for a man to render himself useful to man; and consequently, that it is in this way alone, that he can taste the highest and purest pleasure, which our natures can enjoy, that which proceeds from the consciousness of having been useful to others.

But it is time, that I should make a few remarks on another subject, which would seem appropriately to belong to this occasion.

An idea, I fear, prevails, that truths, such as I have now attempted to illustrate, are obvious enough in themselves, but that they apply only to men of literary education, to professional characters, and persons of fortune and leisure; and that it is out of the power of the other classes of society, and those who pass most of their time in manual labor and mechanical industry, to engage in the pursuit of knowledge, with any hope of being useful to themselves and others.

This, I believe, to be a great error. I trust we may regard the meeting of this numerous audience, as a satisfactory proof, that you consider it an error; and that you are persuaded that

it is in your power, to enjoy the pleasures and the benefits, which flow from the pursuit of useful knowledge.

What is it that we wish to improve? The mind.—Is this a thing monopolized by any class of society? God forbid: it is the heritage with which he has endowed all the children of the great family of man. Is it a treasure belonging to the wealthy? It is talent bestowed alike on rich and poor; high and low. But this is not all; mind is in all men, and in every man, the same active, living, and creative principle; it is the man himself. One of the renowned philosophers of heathen antiquity beautifully said of the intellectual faculties, I call them not *mine*, but *me*. It is these, which make the man; which are the man. I do not say that opportunities, that wealth, leisure, and great advantages for education are nothing; but I do say, they are much less than is commonly supposed; I do say, as a general rule, that the amount of useful knowledge, which men acquire, and the good they do with it, are by no means in direct proportion to the degree to which they have enjoyed what are commonly called the great advantages of life. Wisdom does sometimes, but not most commonly, feed her children with a silver spoon. I believe it is perfectly correct to say, that a small proportion only of those, who have been most distinguished for the improvement of their minds, have enjoyed the best advantages for education. I do not mean to detract, in the least degree, from the advantages of the various seminaries for learning, which public and private liberality has founded in our country. They serve as places, where a large number of persons are prepared for their employment in the various occupations, which the public service requires. But, I repeat it, of the great benefactors of our race; the men, who by wonderful inventions, remarkable discoveries, and extraordinary improvements, have conferred the most eminent service on their fellow-men, and gained the highest names in history,—by far the greater part have been men of humble origin, narrow fortunes, small advantages, and self-taught.

And this springs from the nature of the mind of man, which is not, like natural things, a vessel to be filled up from without;

into which you may pour a little or pour much ; and then measure, as with a gauge, the degrees of knowledge imparted. The knowledge that *can* be so imparted is the least valuable kind of knowledge ; and the man, who has nothing but this, may be very learned, but cannot be very wise. We do not invite you to these lectures, as if their object would be attained, when you have heard the weekly address. It is to kindle the understanding to the consciousness of its own powers ; to make it feel within itself that it is a living, spiritual thing ; to feed it, in order that it may itself begin to act and operate, to compare, contrive, invent, improve, and perfect. This is our object ; an object, as much within the reach of every man, who hears me, as if he had taken a degree in every college in Christendom.

In this great respect,—the most important that touches human condition,—we are all equal. It is not more true, that all men possess the same natural senses and organs, than that their minds are endowed with the same capacities for improvement, though not perhaps all in the same degree. The condition in which they are placed is certainly not a matter of entire indifference. The child of a savage, born in the bosom of a barbarous tribe, is, of course, shut out from all chance of sharing the improvements of civilized communities. So, in a community like our own, an infant condemned, by adverse circumstances, to a life of common street beggary, must be considered as wholly out of the reach of all improving influences. But Shakspeare, whose productions have been the wonder and delight of all who speak the English language for two hundred years, was a runaway lad, who got his living in London, by holding horses at the door of the theatre, for those who went to the play ; and Sir Richard Arkwright, who invented the machinery for spinning cotton, of which I have already spoken, was the youngest of thirteen children of a poor peasant, and, till he was thirty years of age, followed the business of a travelling barber.

As men bring into the world with them an equal intellectual endowment ; that is, minds equally susceptible of improvement ; so in a community, like that in which we have the happiness

to live, the means of improvement are much more equally enjoyed, than might, at first, be supposed. Whoever has learned to read, possesses the keys of knowledge; and can, whenever he pleases, not only unlock the portals of her temple, but penetrate to the inmost halls and most secret cabinets. A few dollars, the surplus of the earnings of the humblest industry, are sufficient, to purchase the use of books, which contain the elements of the whole circle of useful knowledge.

It may be thought, that a considerable portion of the community *want time* to attend to the cultivation of their minds. But it is only necessary to make the experiment, to find *two things*; one, how much useful knowledge can be acquired in a very little time; and the other, how much time can be spared, by good management, out of the busiest day. Generally speaking, our duties leave us time enough, if our passions would but spare us; our labors are much less urgent, in their calls upon us, than our indolence and our pleasures. There are very few pursuits in life, whose duties are so incessant, that they do not leave a little time every day to a man, whose temperate and regular habits allow him the comfort of a clear head and a cheerful temper, in the intervals of occupation; and then there is one day in seven which is redeemed to us, by our blessed religion, from the calls of life, and affords us all time enough for the improvement of our rational and immortal natures.

It is a prevalent mistake to suppose, that *any* class of men have much time to spend, or do spend much time, in mere contemplation and study. A small number of literary men may do this; but the very great majority of professional men,—lawyers, doctors, and ministers, men in public station, rich capitalists, merchants,—men, in short, who are supposed to possess eminent advantages and ample leisure to cultivate their minds, are all very much occupied with the duties of life, and constantly and actively employed in pursuits very uncongenial to the cultivation of the mind and the attainment of useful knowledge. Take the case of an eminent lawyer, in full practice. He passes his days in his office, giving advice to clients, often about the most uninteresting and paltry details

of private business, or in arguing over the same kind of business in court; and when it comes night, and he gets home, tired and harassed, instead of sitting down to rest or to read, he has to study out another perplexed cause, for the next day; or go before referees; or attend a political meeting, and make a speech; while every moment, which can be regarded in any degree as leisure time, is consumed by a burdensome correspondence. Besides this, he has his family to take care of. It is plain that he has no more leisure for the free and improving cultivation of his mind, independent of his immediate profession, than if he had been employed, the same number of hours, in mechanical or manual labor. One of the most common complaints of professional men, in all the professions, is, that *they* have no time to read; and I have no doubt, there are many such, of very respectable standing, who do not, in any branch of knowledge, not connected with their immediate professions, read the amount of an octavo volume in the course of a season.

There is, also, a time of leisure, which Providence, in this climate, has secured to almost every man, who has any thing, which can be called a home; I mean *our long winter evenings*. This season seems provided as if expressly for the purpose of furnishing those who labor, with ample opportunity for the improvement of their minds. The severity of the weather, and the shortness of the days, necessarily limit the portion of time which is devoted to out-doors' industry; and there is little to tempt us abroad, in search of amusement. Every thing seems to invite us to employ an hour or two of this calm and quiet season, in the acquisition of useful knowledge, and the cultivation of the mind. The noise of life is hushed; the pavement ceases to resound with the din of laden wheels and the tread of busy men; the glaring sun has gone down, and the moon and the stars are left to watch in the heavens over the slumbers of the peaceful creation. The mind of man should keep its vigils with them; and while his body is reposing from the labors of the day, and his feelings are at rest from

its excitements, he should seek, in some amusing and instructive page, a substantial food for the generous appetite for knowledge.

If we needed any encouragement to make these efforts to improve our minds, we might find it in every page of our country's history. No where do we meet with examples, more numerous and more brilliant, of men, who have risen above poverty and obscurity and every disadvantage, to usefulness and an honorable name. Our whole vast continent was added to the geography of the world, by the persevering efforts of an humble Genoese mariner, the great Columbus, who, by the steady pursuit of the enlightened conception which he had formed of the figure of the earth, before any navigator had acted upon the belief that it was round, discovered the American Continent. He was the son of a Genoese pilot; a pilot and seaman himself; and, at one period of his melancholy career, was reduced to beg his bread, at the doors of the convents in Spain. But he carried within himself and beneath an humble exterior, a spirit for which there was not room in Spain, in Europe, nor in the then known world; and which led him on to a height of usefulness and fame, beyond that of all the monarchs that ever reigned.

The story of our Franklin cannot be repeated too often;—the poor Boston boy; the son of an humble tradesman, brought up a mechanic himself; a stranger at colleges till they showered their degrees upon him; who rendered his country the most important services, in establishing her independence; enlarged the bounds of philosophy, by a new department of science; and lived to be pronounced, by Lord Chatham, in the British house of peers, an honor to Europe and the age in which he lived.

Why should I speak of Green, who left his blacksmith's furnace, to command an army in the revolutionary war; the chosen friend of Washington, and next to him perhaps the military leader, who stood highest in the confidence of his country?

West, the famous painter, was the son of a Quaker in Phila-

delphia; he was too poor, at the beginning of his career, to purchase canvass and colors; and he rose eventually to be the first artist in Europe, and President of the Royal Academy at London. Count Rumford was the son of a farmer, at Woburn; he never had the advantage of a college education, but used to walk down to Cambridge, to hear the lectures on natural philosophy. He became one of the most eminent philosophers in Europe; founded the royal institution in London, and had the merit of bringing forward Sir Humphrey Davy, as the lecturer on chemistry, in that establishment. Robert Fulton was a portrait painter in Pennsylvania, without friends or fortune. By his successful labors in perfecting steam navigation, he has made himself one of the greatest benefactors of man. Whitney, the son of a Massachusetts farmer, was a machinist. His cotton gin, according to Judge Johnson, of the Supreme Court of the United States, has trebled the value of all the cotton lands at the South, and has had an incalculable influence on the agricultural and mechanical industry of the world. Whittemore, of West Cambridge, the person who invented the machinery for the manufacture of cards, possessed no other means of improvement than those which are within the reach of every temperate and industrious man. Several in this audience were probably acquainted with the modest and sterling merit of the late Mr. Paul Moody. To the efforts of his self-taught mind, the early prosperity of the great manufacturing establishments at Waltham and Lowell, is in no small degree owing. I believe I may say with truth, that not one of these individuals enjoyed, at the outset, superior opportunities for acquiring useful knowledge, to those in the reach of every one who hears me.

These are all departed; but we have living among us illustrious instances of men, who, without early advantages, but by the resolute improvement of the few opportunities thrown in their way, have rendered themselves, in like manner, useful to their fellow-men; the objects of admiration to those who witness their attainments, and of gratitude to those who reap the fruit of their labors.

On a late visit to New Haven, I saw exhibited a most

beautiful work of art; two figures in marble, representing the affecting scene of the meeting of Jephthah and his daughter, as described in the Bible. The daughter, a lovely young woman, is represented as going forth, with the timbrel in her hand, to meet her father as he returns in triumph from the wars. Her father had rashly vowed to sacrifice to the Lord the first living thing which he should meet, on his return; and as his daughter runs forth to embrace him, he rends his garments and turns his head in agony, at the thought of his vow. The young maiden pauses, astonished and troubled at the strange reception. This pathetic scene is beautifully represented in two marble figures of most exquisite taste, finished in a style which would do credit to a master in the art. They are the work of a self-taught artist at New Haven, who began life, I have been informed, as a retailer of liquors. This business he was obliged to give up, under a heavy load of debt. He then turned his attention to carving in wood; and, by his skill and thrift in that pursuit, succeeded in paying off the debts of his former establishment to the amount of several thousand dollars. Thus honorably placed at liberty, he has since devoted himself to the profession of a sculptor, and, without education, without funds, without instruction, he has risen at once to extraordinary proficiency in this difficult and beautiful art, and bids fair to enrol his name among the brightest geniuses of the day.

I scarce know if I may venture to adduce an instance, nearer home, of the most praiseworthy and successful cultivation of useful knowledge, on the part of an individual, without education, busily employed in mechanical industry. I have the pleasure to be acquainted, in one of the neighboring towns, with a person, who was brought up to the trade of a leather-dresser, and has all his life worked and still works at this business. He has devoted his leisure hours, and a portion of his honorable earnings, to the cultivation of useful and elegant learning. Under the same roof, which covers his store and workshop, he has the most excellent library of English books, for its size, with which I am acquainted. The books have been selected with a good judgment, which would do

credit to the most accomplished scholar, and have been imported from England by himself. What is more important than having the books, their proprietor is well acquainted with their contents. Among them, are several volumes of the most costly and magnificent engravings. Connected with his library, is an exceedingly interesting series of paintings, in water-colors, which a fortunate accident placed in his possession, and several valuable pictures, purchased by himself. The whole forms a treasure of taste and knowledge, not surpassed, if equalled, by any thing of its kind in the country.

I should leave this part of my address too unjustly defective, did I not add that we possess, within our own city, an instance of merit, as eminent as it is unobtrusive, in the person of one who has raised himself, from the humblest walks of life, to the highest scientific reputation. Little, perhaps, is it known to the intelligent mariner, who resorts to his *Practical Navigator*, for the calculations with which he finds his longitude in mid-ocean, that many of them are the original work of one, who started at the same low point in life with himself. Still less is it known to him, that this was but the commencement of a series of scientific productions, which have placed their author upon an equality with the most distinguished philosophers of Europe, and inscribed the name of Bowditch with those of Newton and La Place, upon that list of great minds, to which scarcely one is added in a century.

But why should I dwell on particular instances? Our whole country is a great and speaking illustration of what may be done by native force of mind, uneducated, without advantages, but starting up under strong excitement, into new and successful action. The statesmen, who conducted the revolution to its honorable issue, were called, without experience, to the head of affairs. The generals, who commanded our armies, were most of them taken, like Cincinnatus, from the plough; and the forces which they led, were gathered from the firesides of an orderly and peaceful population. They were arrayed against all the experience, talent, and resource of the elder world; and came off victorious. They have

handed down to us a country,—a constitution,—and a national career, affording boundless scope to every citizen, and calling every individual to do for himself, what our fathers unitedly did for the country. What man can start in life, with so few advantages, as our country started with, in the race of independence? Over whose private prospects, can there hang a cloud, as dark as that which brooded over the cause of America? Who can have less to encourage, and more to appal and dishearten him, than the sages and chieftains of the revolution? Let us, then, endeavor to follow in their steps; and each, according to his means and ability, try to imitate their glorious example; despising difficulties, grasping at opportunities, and steadily pursuing some honest and manly aim. We shall soon find, that the obstacles which oppose our progress, sink into the dust before a firm and resolute step; and that the pleasures and benefits of knowledge are within the reach of all who seek it.

There are a few considerations, which I beg leave more particularly to address to the younger part of the audience, and which seem to call on them, peculiarly, with a loud voice, to exert themselves, according to their opportunities, to store their minds with useful knowledge.

The world is advanced to a high point of attainment in science and art. The progress of invention and improvement has been, especially of late years, prodigiously rapid; and now, whether we regard the science of nature or of art, of mind or of morals, of contemplation or of practice, it must be confessed, that we live in a wonderfully improved period.

Where *is* all this knowledge? where does it dwell? In the minds of the present generation of men. It is indeed recorded in books, or embodied in the various works and structures of man. But these are only the manifestations of knowledge. The books are nothing, till they are read and understood; and then they are only a sort of short-hand, an outline which the mind fills up. The thing itself,—the science, the art, the skill, are in the minds of living men,—of that generation which is now upon the stage.

That generation will die and pass away. This hour, which

we have passed together, has been the last hour to many thousands throughout the world. About three thousand of our race have died since I began my lecture. Among them of course is a fair proportion of all the learned and the wise, in all the nations. In thirty years, all now living will be gone or retired from the scene, and a new generation will have succeeded.

This mighty process does not take place at once, either throughout the world, or in any part of it ; but it is constantly going on—silently, effectually, inevitably ; and all the knowledge, art, and refinement, now in existence, must be either acquired by those who are coming on the stage, or it perishes with those who are going off, and is lost forever. There is no way, by which knowledge can be handed down, but by being learned over again ; and of all the science, art and skill in the world, so much only will survive when those who possess it are gone, as shall be acquired by the succeeding generation. All the rest must perish.

The rising generation is now called upon to take up this mighty weight ; to carry it along a little way ; and then hand it over, in turn, to their successors.

The minds which, in their maturity, are to be the depositories of all this knowledge, are coming into existence every day and every hour, in every rank and station of life ; all equally endowed with faculties ; all at the commencement equally destitute of ideas ; all starting with the ignorance and helplessness of nature ; all invited to run the noble race of improvement. In the cradle there is as little distinction of persons as in the grave.

The great lesson, which I would teach you is,—that it depends mainly on each individual, what part he will bear in the accomplishment of this great work. It is to be done by somebody. In a quiet order of things, the stock of useful knowledge is not only preserved but augmented ; and each generation improves on that which went before. It is true there have been periods, in the history of the world, when tyranny at home, or invasion from abroad, has so blighted and blasted the condition of society, that knowledge has perished with one

generation, faster than it could be learned by another; and whole nations have sunk from a condition of improvement to one of ignorance and barbarity, sometimes in a very few years. But no such dreadful catastrophe is now to be feared. Those who come after us will not only equal but surpass their predecessors. The existing arts will be improved, science will be carried to new heights, and the great heritage of useful knowledge will go down unimpaired and augmented.

But it is all to be *shared out anew*; and it is for each man to say, what part he will gain in the glorious patrimony.

When the rich man is called from the possession of his treasures, he divides them as he will among his children and heirs. But Providence, the stern agrarian, deals not so with the living treasures of the mind. There are children just growing up in the bosom of obscurity, in town and in country, who have inherited nothing but poverty and health, who will, in a few years, be striving in stern contention with the great intellects of the land. Our system of free schools has opened a straight way from the threshold of every abode, however humble, in the village or in the city, to the high places of usefulness, influence, and honor. And it is left for each, by the cultivation of every talent; by watching with an eagle's eye for every chance of improvement; by bounding forward like a greyhound, at the most distant glimpse of honorable opportunity; by grappling as with hooks of steel to the prize when it is won; by redeeming time, defying temptation, and scorning sensual pleasure, to make himself useful, honored, and happy.

